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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,768	10/07/2003	Yu-Ren Wang	JCLA10893	8313
7590	09/22/2004		EXAMINER	
J.C. Patents, Inc. Suite 250 4 Venture Irvine, CA 92618			LE, THAO P	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/681,768	Applicant(s) WANG ET AL.	
	Examiner Thao P. Le	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application (PTO-152) |
| 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Claims 1-23 are pending in this application.

Claim Rejections

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wieczorek et al., U.S. Pub Patent No. 2004/0121565.

Regarding claims 1-2, 8-9, and 14-15, 18, Wieczorek et al. discloses a method of manufacturing a metal oxide semiconductor transistor similar to what recited in claims 1, 8, and 14, see Figs. 4-5 and pages 1-6, the method comprising: providing a substrate, forming a gate insulation layer 6 and a conductive layer 7 over the substrate, performing a pre-amorphization implantation on the conductive layer/substrate (Fig. 3), wherein the pre-amorphization implantation is carried out using a dopant having an ionic

radius greater than a germanium ion such as Xeron, argon, krypton (para 0024, page 3), forming a doped source/drain extension region in the substrate on each side of the gate, forming spacer on the sidewall of the gate, forming doped source/drain region in the substrate on each side of spacer (Figs. 4-5) (para 0048-0049, page 4), performing a solid phase epitaxial process to re-crystallize the amorphized conductive layer in the gate structure and activate the dopants in the doped source/drain extension region and the doped source/drain region to form a source/drain terminal. Wieczorek fails to disclose the step of forming a first spacer before forming doped source/drain extension region. However, it is conventional in the art that spacer is formed to obtain lightly doped extension regions, and it is obvious that the device would yield the same functions, results having with or without spacer when forming extension regions.

Still regarding claim 14, Wieczorek et al. fails to disclose a repeating step of pre-amorphization implantation in the substrate, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to performing a second pre-amorphization implantation since it has been held that repeating the same steps in essential working process involves only routine skill in the art.

Regarding claims 3-4, 10-11, 16-17, 19-20, Wieczorek et al. discloses the dosage of the dopants and the energy level that used in pre-amorphization process fall in the ranged that recited in instant invention (para 0024).

Regarding claims 5-7, 12-13, 21-23, it is well known to one having ordinary skill in the art that the temperature used to deposit spacer and material used for forming

spacer such as BTBAS and convert the conductive layer into N or P type would have been obvious and involve routine optimization which has been held to be within the level of ordinary skill in the art.

When responding to the office action, Applicants' are advice to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wei et al discloses similar method as recited in claims 1-23.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao P. Le whose telephone number is 571-272-1785. The examiner can normally be reached on M-T (7-6).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Thao P. Le'.

Thao P. Le
Examiner
Art Unit 2818
Sept. 16, 2004.